FINDINGS

Weighing Policy Options To Increase Incomes of Mali's Cotton Farmers

Felix G. Baquedano, USDA/ERS

In the former French colonies of West Africa, which include Mali, cotton productivity has stagnated after rapid gains in the first two decades following independence (1960-80). As a result, farmers' returns after paying for variable inputs have declined 39 percent in real (adjusted for inflation) terms from 15 years ago. The region's exports and its world market share also have decreased by 39 and 50 percent, respectively, in the past 10 years.

A joint study by ERS, Purdue University, and Oklahoma State University found that eliminating U.S. cotton subsidies would bring limited benefits to the operators of small farms in Mali. Much greater gains could be realized by encouraging productivity growth through a combination of increased fertilizer use and the introduction of genetically modified cotton crops.

West African officials and foreign countries providing financial aid to West African nations have put forward numerous proposals aimed at increasing West African farmers' incomes and cotton exports in the region. Most initiatives have targeted the ability of the limited number of government-controlled cotton gins in those countries to collude and fix cotton prices, which has prevented local farmers from realizing the potential gains from higher world cotton prices.

To this end, control of state gins in five West African countries has been or will be transferred to new private companies. At the same time, there has been little discussion or investment in measures that could increase cotton productivity, except in Burkina Faso, where producers and the local government have invested significantly in the introduction of genetically modified cotton containing the *Bacillus thuringiensis* (Bt) organism.

The ERS-Purdue-Oklahoma State study found that without any modification to U.S. cotton subsidies, increased fertilizer use and the introduction of *Bt* cotton would raise Malian cotton farmers' household incomes by 15 percent per year. Increased world prices, resulting from modifications to U.S. cotton subsidies, in contrast, would increase annual incomes by 5 percent.

The income gains from higher world prices would rise to 9 percent if steps were also taken to improve farmers' prices through the privatization of the state-controlled gins. Introducing genetically modified cotton without expanding fertilizer use or eliminating U.S. cotton subsidies would increase annual household incomes by 10 percent.

Productivity gains yield biggest increases in annual incomes of Malian cotton farmers

Policy option	Estimated increase in expected farm household income
	U.S. dollars
Higher world price	136
(Percent change)	5
Higher world price with increase in farmers' market power	253
(Percent change)	9
Introducing Bt cotton	275
(Percent change)	10
Introducing Bt cotton and increasing fertilizer use	424
(Percent change)	15

Source: USDA, Economic Research Service using Baquedano et al. (2010).

Felix G. Baquedano, fbaquedano@ers.usda.gov
John H. Sanders, Purdue University, jsander1@purdue.edu
Jeffrey Vitale, Oklahoma State University, Jeffrey.vitale@okstate.edu

This finding is drawn from . . .

"Increasing incomes of Malian cotton farmers: Is elimination of U.S. subsidies the only solution?" by Felix G. Baquedano, John H. Sanders, and Jeffrey Vitale, in *Agricultural Systems*, 103 (2010) 418-432.